

**Intersessional Report to the SCAR Executive Committee**  
**Standing Scientific Group on Life Sciences**  
**July 2005**

## 1. Introduction

The Standing Scientific Group on Life Sciences (SSG–LS) was constituted at XXVII SCAR in 2002.

Since XXVIII SCAR the group comprises:

- *Expert Groups (EGs):*
  - Expert Group on Birds (EGB)
  - Expert Group on Seals (EGS)
  - Expert Group on Human Biology and Medicine (EGHB&M)
- *Scientific Programme Groups (SPGs):*
  - Evolutionary Biology of Antarctic Organisms (EVOLANTA)
  - Antarctic Pack Ice Seals (APIS)
  - Regional Sensitivity to Climate Change in Antarctic Terrestrial and Limnetic Ecosystems (RiSCC)
  - Evolution and Biodiversity in the Antarctic (EBA)
  - Subglacial Antarctic Lake Environments (SALE, jointly sponsored with the Geosciences Standing Scientific Group)
- *Action Groups (AGs):*
  - Action Group on Biological Monitoring
  - Action Group on the Census of Antarctic Marine Life (CAML)

Over the past year there has been substantial activity by the SSG–LS and its associated expert groups and programmes. These activities are briefly outlined here.

## 2. IXth SCAR International Biology Symposium, Curitiba, Brazil, July 2005

The theme of the symposium is “Evolution and Biodiversity in Antarctica”. Sessions are organized under the following themes:

- Evolution and Adaptation
- Ecological Processes
- Monitoring and Management
- Patterns and Processes in Biodiversity
- Molecular approaches to Biodiversity
- Conservation

A meeting of the international steering committee for the symposium took place in Cambridge (March 2005) at which, from the submitted abstracts, a detailed programme was drafted and session chairs were invited. During the symposium many workshops are also being organized:

The RiSCC and EVOLANTA SPGs will dissolve themselves and the participants will reconfigure parts of their research in order to fit the science plan of EBA. The EBA SPG held a workshop in order to discuss the draft implementation plan, prepared by a group of participants of the various SSG–LS SPGs, hosted by BAS (Cambridge, UK, March 2005)

Smaller workshops are being planned on: the International Polar Year (IPY), the International Antarctic Institute (IAI), Conservation in the 21st Century, Monitoring and Management, and Marine Protected Areas.

### 3. Expert Groups

*The Expert Group on Birds (EGB)* has, over the past few months, played an important role in the implementation of the Agreement on the Conservation of Albatrosses and Petrels (ACAP). Dr Eric Woehler (Australia, Chairman of the Expert Group) received observer status to the First Meeting of Parties of ACAP; he is also hosting the first meeting of ACAP's Advisory Committee (July 2005, Hobart). Together with John Cooper (South Africa) he drafted an information paper on the activities of the EGB and the support this group could provide to the activities of ACAP. The EGB continued working on the list of Important Bird Areas of Antarctica and the islands of the Southern Ocean. 119 sites are now listed and information on these sites is being collected. It is the objective to produce a book on these sites, a co-production of the EGB and Birdlife International.

*The Expert Group on Seals (EGS)* has developed their long-awaited website which is now up and running. The group held their periodic meeting in connection with XXVIII SCAR in Bremen (2004). A serious concern of both the EGS and the SSG–LS is the lack of progress with respect to the final report of the APIS programme. The research of the APIS programme ended some years ago and by now the programme has exceeded its agreed lifetime. The SSG–LS does not want to strike the programme off the list of SPGs, in order to keep a certain hold on the process of compiling the final report.

*The Expert Group on Human Biology and Medicine (EGHB&M)* will have its intersessional meeting concurrent with the SCAR Executive/COMNAP meeting in Sofia (Bulgaria, July 2005), in place of the proposed meeting in San Diego in October, 2005. The planned merger between the EGHB&M and the COMNAP MEDINET group will then again be discussed. The Chairman of the group is confident that such a merger will take place. The group submitted a proposal to the ICSU in January, 2004 entitled "Taking the Polar Pulse: IPY 2007-2008". The focus of the proposed research effort would be to;

1. to provide and coordinate a forum for medical, physiological, behavioural, clinical and biological scientists to promote high quality research in polar human biology in association with appropriate international scientific organizations;
2. to encourage cooperation in the continued evolution of high quality healthcare and the prevention of injury and disease in the Antarctic; and
3. to promote the full use of the unique environment of the Antarctic to allow understanding of major health problems in polar regions and other analogue or extreme environments in particular, and in mankind in general.

ICSU reviewed the application and invited the group to submit a more detailed proposal by 30 June 2005. Efforts are currently underway to collaborate with organizations and investigators planning to conduct research in the Arctic during IPY.

#### 4. Scientific Programme Groups

The *RiSCC* and *EVOLANTA SPGs* together with members of the steering committee of the former EASIZ programme have been mainly occupied in the drafting of an implementation plan for EBA. A workshop to this effect was hosted by BAS (Cambridge, United Kingdom, March 2005). Representatives of all the SSG–LS SPGs (including members of the former EASIZ programme) attended the workshop. This plan will be discussed in plenary during the Curitiba symposium. Meanwhile a questionnaire has been distributed to sample the views of the biological community on the EBA programme (following the initiative of the AGCS SPG).

*RiSCC*–related research was conducted in a number of the core sites of the programme along the Antarctic Environmental Gradient (AEG). The population of the biodiversity database, in order to produce a publication on the biodiversity patterns in terrestrial and limnetic systems across the AEG, gained momentum following sponsorship from SCAR (Bremerhaven) and financial support of the Australian Antarctic Division. The group is aiming for a publication in *Science*. The book on *Trends in Antarctic Terrestrial and Limnetic Ecosystems* is nearing completion. The last manuscripts are expected to be ready in June 2005. The proceedings of the fifth *RiSCC* workshop (2003, Varese, Italy) were published in *Terra Antartica Reports* (no. 11, eds. Nicolletta Cannone and Mauro Guglielmin).

The SSG–LS is co-sponsoring the SALE SPG (SSG–G). This is reflected in the membership of biologists in the SALE SPG.

#### 5. Action groups

*The AG on Biological monitoring* organized a very successful workshop in Bryan/College Station, (Texas, USA, March 2005). The workshop was co-funded by The National Science Foundation Office of Polar Programs (NSF–OPP), the Council of Managers of National Antarctic Programmes (COMNAP), and the Scientific Committee on Antarctic Research (SCAR). The workshop was co-hosted by the Office of the Vice President for Research, Texas A&M University and the British Antarctic Survey. 44 participants from 14 countries attended the workshop. A workshop report is nearing completion and will be presented to the sponsors shortly. The recommendations from the workshop will be discussed in plenary during a workshop at the Curitiba symposium.

*The AG on the Census of Antarctic Marine Life (CAML)* is making preparations for this major field project as a contribution to the IPY. This project forms an integral part of the EBA programme, as its major aim is to describe the biodiversity of the Southern Ocean, one of the major objectives of the EBA science plan. The group has established a steering committee during its first meeting in Bremerhaven (October 2004). For the activities of the group, SCAR received a substantial grant from the Sloan Foundation.

Concurrent with the development of CAML, the *SCAR Marine Biodiversity Network* (SCAR MarBIN) is being developed. This project was initiated by the EASIZ community. Belgium agreed to host SCAR MarBIN and has already deployed three staff people for a period of five years. SCAR MarBIN should be fully functional by the start of the IPY and will serve amongst others as the data repository for the CAML project. SCAR MarBIN will be integrated with international biodiversity networks and will become the Antarctic node of the biodiversity programmes OBIS and GBIF.

## 6. Additional Issues

Under the auspices of the SC–ATS but with strong support of the SSG–LS, a workshop on *Antarctic Conservation in the 21<sup>st</sup> Century* was held in Stellenbosch (South Africa, May 2005). Conservation has evolved over the last decades but this has not been taken up by the Treaty and implemented in protocols. The objective of the workshop was to use the document on conservation produced by IUCN in 1991 and then to show how conservation has changed and how this can be brought into Treaty protocols. The report of the workshop will be discussed during a workshop at the Curitiba symposium.

One of the outcomes of the Stellenbosch workshop was the need for conservation of integral systems: not only biota but their connected geological and glaciological features. It was noted that this new strategy for Antarctic Conservation could be the theme of a plenary session during the SCAR Open Science Conference in Hobart in 2006.

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Yerseke, June 2005

### List of Acronyms and Abbreviations

ACAP	Agreement on the Conservation of Albatrosses and Petrels
AEG	Antarctic Environmental Gradient
AG	Action Group
AGCS	Antarctica and the Global Climate System
APIS	Antarctic Pack Ice Seals
BAS	British Antarctic Survey
CAML	Census of Antarctic Marine Life
COMNAP	Council of Managers of National Antarctic Programmes
EASIZ	Ecology of the Antarctic Sea-Ice Zone
EBA	Evolution and Biodiversity in the Antarctic
EG	Expert Group
EGB	Expert Group on Birds
EGHB&M	Expert Group on Human Biology and Medicine
EGS	Expert Group on Seals
EVOLANTA	Evolutionary Biology of Antarctic Organisms
GBIF	Global Biodiversity Information Facility
IAI	International Antarctic Institute
ICSU	International Council for Science
IPY	International Polar Year
IUCN	World Conservation Union
MarBIN	Marine Biodiversity Network
MEDINET	Medical Network
NSF	National Science Foundation
OBIS	Ocean Biogeographic Information System
OPP	Office of Polar Programs
RiSCC	Regional Sensitivity to Climate Change in Antarctic Terrestrial and Limnetic Ecosystems
SALE	Subglacial Antarctic Lake Environments
SCAR	Scientific Committee on Antarctic Research
SC–ATS	Standing Committee for the Antarctic Treaty System
SPG	Scientific Programme Group
SSG–G	Standing Scientific Group on Geosciences
SSG–LS	Standing Scientific Group on Life Sciences